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ABSTRACT

This manual is designed to provide an introduction and basic guide to the use of IBM's Advanced Text Management System (ATMS), the text processing system to be used for the creation of Australian data bases within AUSINET. Instructions are provided for using the system to enter, store, retrieve, and modify data, which may then be displayed at the terminal, output for the creation of a data base for subsequent information retrieval using STAIRS, or to compile lengthy documents such as reports. The first part of the manual is concerned with terminal operation and procedures for preparing materials for inclusion in a data base; the second part describes additional features, format controls and special formatting techniques, text alterations, and printing procedures for the creation of printed documents. The manual should be supplemented by the "ATMS Terminal Operations Guide" produced by IBM. (JD)

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ATMS STEP BY STEP

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

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ATMS STEP BY STEP

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PREFACE

The creation of AUSINET (AUStralian INformation NETwork) represents a major development in Australian librarianship. For the first time, Australian libraries will not only be able to access major overseas data bases, but will have the facility to create their own data bases of Australian material.

The software to be used for data base creation within AUSINET is IBM's Advanced Text Management System (ATMS). As ATMS is basically a text processing system, some training material is necessary to explain how to use the system for data base creation. This manual approaches the use of ATMS from the point of view of data base creation within AUSINET. It is intended for use by people who have no experience in data base creation.

Section two of this manual contains additional information on using the text manipulation capabilities of ATMS. ATMS Step by Step is designed to supplement information contained in IBM's ATMS Terminal Operations Guide.

Comments on the contents and format of ATMS Step by Step are most welcome, and should be directed to Diana Killen, Education Information Service, National Library of Australia. (Tel. 621 607).

ATMS STEP BY STEP

1. INTRODUCTION

AUSINET (AUStralian Information NETwork) will provide its members with the basis of a national system for the creation and dissemination of social sciences and sci-tech information services. The network is based on ACI Computer Services' installation at Clayton, Victoria. The computing system uses proven IBM software - Advanced Text Managment System (ATMS) for data base creation, Storage and Information Retrieval System augmented with Thesaurus and Linguistic System (STAIRS/TLS) for data base interrogation, and a range of software packages for producing hard-copy printout, indexes, bulletins and other end products.

Perhaps the most important aspect of the network will be the creation of Australian data bases. Data bases created with ATMS can then be searched using STAIRS.

This manual is designed to provide AUSINET users with an introduction and basic guide to the use of ATMS. It should be supplemented by the "ATMS Terminal Operations Guide" produced by IBM. (Order number SH20-1476-2)

The companion volume to this manual, "Easy Steps to STAIRS" will provide AUSINET members with a guide to using STAIRS for information retrieval.

1.1 WHAT IS ATMS?

ATMS is a text-processing system which enables you to enter, store,retrieve and modify data. Once your text has been stored, you can edit it, correct it, display it at the terminal, ask for it to be printed, or output it for building into a data base for subsequent information retrieval using STAIRS.

You will probably want to use ATMS for two kinds of operations:

(1) To create data bases for searching with STAIRS

(2) To compile lengthy documents such as reports. ATMS will automatically arrange your paragraphs, line lengths, page numbering, indentations, page headings and footings according to the format controls that you specify.

2. THE SCREEN & KEYBOARD

To search data bases with STAIRS, or to enter documents using ATMS, you will probably be using one of four models of VDU (Visual Display Unit):

Plessey-Courier 2750
IBM 3275
Olivetti 275
Sanders ANA

All four models have similar screens and keyboards. The description which follows is based on a Courier 2750 terminal.

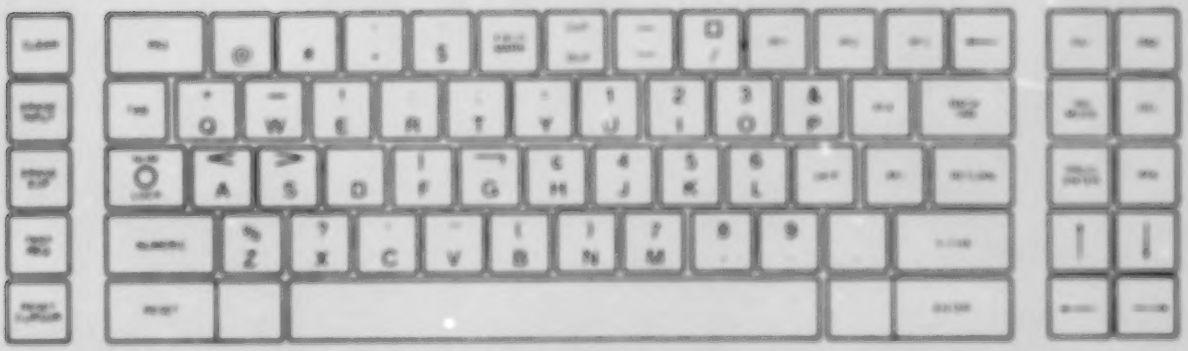
2.1 THE SCREEN

The screen holds 24 lines, each of 80 characters. The Courier screen can display both upper and lower case. To use the lower case function, press the button marked 'LC' on the right hand side of the screen. The button marked 'CLR' will allow you to change back to an all upper case screen.

With ATMS, line 1 of the screen is reserved for instructions or commands. Line 2 is for the ATMS response to your commands. Lines 2-23 are for data entry. Line 24 contains fields showing the operator's name, the number of the document and page number currently in working storage, and the entry/edit width. Techniques for making use of these fields are explained in sections 9.1 and 11.1.1. When you have filled this space (or as much of it as you require) you can transmit the text to ATMS by pressing the ENTER key.

2.2 THE KEYBOARD

PROGRAM FUNCTION KEYS



The keyboard has:

- 12 function keys to the right of the keyboard. The names of the keys are displayed on the template which fits around them. One side of the template indicates the functions of the keys with STAIRS, and the other side indicates their functions with ATMS:

FUNCTION KEYS WITH STAIRS

SEARCH	SELECT	BROWSE
DISPLAY	RANK	CHANGE
PRINT	HELP	SORT
MAIL	EXEC	COPY

FUNCTION KEYS WITH ATMS

ADD	ERASE	MOVE
COPY	PAGE	ROLL
PRTR	HARD COPY	

- the ENTER key. When you have entered data, you can transmit it to ATMS by pressing the ENTER key. To issue commands to ATMS, type your instruction on line 1 of the screen and then press the ENTER key, or where appropriate use one of the special function keys instead:

- 26 alphabetic keys - exactly the same as an ordinary typewriter:

- the SHIFT keys. Two SHIFT keys and a SHIFT LOCK key are used to type upper case characters:

- 10 numeric keys with which you can type the digits 0 to 9. By using these keys with the SHIFT key you can type the special characters shown on the top of each of these keys:

- the CLEAR key. This key clears the screen:

- the ERASE INPUT and ERASE EOF keys. The ERASE INPUT key will erase all the characters you currently hold on the screen. The ERASE EOF key will erase all characters after the cursor. (The cursor appears on the screen as a horizontal line about 3mm long. It defines the place on the screen where your next instruction will be entered);

- the RETURN key. This key will position the cursor at the beginning of the next line to be typed;

- the BACK TAB key. This key is used to position the cursor at the beginning of the first line on the screen. It is very useful for positioning the cursor before you issue commands to ATMS;

- the TAB key on the left side of the keyboard. This key can be used to position the cursor to alter the fields in line 24 of the screen;

- the PA2 key which can be used to cancel certain operations. Its use is described below;

- the INSERT, DELETE and RESET keys, and four keys (marked with arrows) which govern the position of the cursor. All these keys can be used for error correction and their uses are described below;

- the SPACE bar to generate blank spaces. By holding the SPACE bar down you can generate as many blank spaces as you want;

- 9 special character keys. Each key has two characters on its face. The upper character can be typed by depressing the SHIFT key and striking the special character key;

- several other keys which you will not need to use with ATMS or STRIKE. These keys are not described in this manual.

3. OPERATING THE TERMINAL

First make sure that the terminal and modem are turned on at the power points, that the terminal itself is turned on, and the "System ready" and "Sync. search" lights are on. The "System available" light will come on and you will receive a message on the screen from ACI when the system is ready for you to use either ATMS or STRIKE. Press the CLEAR key to clear the screen.

[illegible]

[illegible]

[illegible]

You are now signed on to VTAM, and are ready to enter some data, which should have, on screen the network pattern "Secure VTAM".

5.0 Clearing VTAM

To sign off, you must first clear existing screens. VTAM provides you with two types of screen: existing screens and permanent screens. VTAM screens is described in section 3. To clear existing screens, type "clear" on line 1 and press the ENTER key. Do not confuse this command with pressing the CLEAR key. The key performs quite different functions. VTAM will respond:

OK, CLEARED

Use the DATA TAB key to take the cursor back to line 1, and type "end". Press the ENTER key.

5.0 Operator problems

You may occasionally encounter problems with VTAM and VTAMIS. Any problems which arise will probably fall into the following categories:

PROBLEM	CAUSE	SOLUTION
The "system available" light on your screen goes off	○ line problems ○ computer problems	Wait for 5-10 minutes for the problem to be rectified by the network operators on VTI. If nothing happens, telephone the computer room on VTI and explain your problem. (X3 reports)
No "system available" light or "system started" message	○ system not yet available ○ line problems	Telephone the computer room on VTI and explain your problem.

PROBLEM	CAUSE	SOLUTION
"User has violated privacy" message	. you have entered the wrong sign on code twice	Telephone the computer room at ACI and explain your problem.
"Invalid transaction identification" message on the the screen	. line problems . computer problems	This message may occur after a line problem. Clear the screen and sign on again.

4. LEARN ATMS

LEARN ATMS is a series of lessons designed to help you learn the basic commands and controls of ATMS. The lessons, and their associated exercises, will be most helpful if you wish to use ATMS to enter continuous text for reformatting at the time of output, rather than for entering documents to create a data base. You will need a 3270 Workbook for ATMS (order number SH20-1643-0)

LEARN ATMS contains an introduction, and eleven lessons. To access the lessons, on line 1 of the screen type: learn; lesson name; frame number

For example:

learn;Lesson 3 [do not leave a space after the semi-colon, type the "L" in upper case, type a blank, then the Lesson number]

The introduction explains the procedures for taking the lessons. The contents of the lessons are:

Lesson 1 - tabs, setting page width and depth;

Lesson 2 - the 'clear' command, and working storage;

Lesson 3 - formatted and unformatted mode;

Lesson 4 - centering, footings, headings and line skip;

Lesson 5 - use of Program Function Keys (PFK's);

Lesson 6 - page and unit numbers;

Lesson 7 - the ERASE and MOVE commands;

Lesson 8 - document handling (retrieving, deleting, storing a document);

Lesson 9 - the FIND and REPLACE commands;

Lesson 10 - the PRINT commands;

Lesson 11 - the COPY command.

5. ATMS Storage

ATMS provides you with two types of storage. While you are entering a document, or editing it, the document is stored in WORKING STORAGE. Information in WORKING STORAGE is not automatically saved for future reference.

When a document is to be saved for later use, it must be stored in PERMANENT STORAGE, and identified by a unique name. The document will then remain in PERMANENT STORAGE until you want to delete it. Storing and deleting documents will be covered later in this manual.

To alter a document once it has been stored in PERMANENT STORAGE, you must transfer it to WORKING STORAGE. Text transferred to WORKING STORAGE is always added to any data already in WORKING STORAGE, so it is a good idea to clear WORKING STORAGE (type "clear"on line 1) before transferring a document from PERMANENT STORAGE.

6. ATMS PAGES

ATMS will sequentially number each line or unit of text in working storage. Each unit number is related to the page on which it appears:

eg. The quick brown fox 1.2 (page 1, unit 2)
jumped over the lazy 1.3 (page 1, unit 3)

While you are entering, editing or displaying a document, ATMS will treat each screen as a notional page.

The format of your output page will vary according to the page width and depth specifications that you set.

6.1 PAGE WIDTH AND DEPTH

Before you begin entering text, ATMS enables you to determine the width of your page and the number of lines each page will contain. The page width can vary from 20-130 characters, and the page depth from 5-99 lines. (If you do not specify any page width and depth values, ATMS will assume a page width of 30 characters, and a page depth of 5 lines).

To set page width and depth values, type on line 1:

```
w;width value;depth value
```

and press the ENTER key. ATMS will respond:

```
OK
```

EXAMPLE:

```
w;65;60 (page width of 65 characters, page depth of
         60 lines)
```

The settings of 65 width and 60 depth are commonly used settings for reports to be printed on quarto size paper. This depth setting allows three blank lines at the top and bottom of each page.

These values will remain in use until you enter a command to change them. If you wish to retain (eg) your present page depth, you may omit this value in your new instruction.

EXAMPLE:

```
. w;10 (page depth to remain unchanged)
  w;;65 (page width to remain unchanged)
```

If, as in the last example, you omit the page width value you must substitute a semicolon.

When you store a document in permanent storage, the page width and depth values will be included with your document.

6.2 TABSETTING

To control the position and appearance of the formatted text, and the beginning of paragraphs, you can set tabs at the same time as page width and depth settings. To set tabs, type a series of dashes on line 1, with a 't' in each position you want tabs set.

EXAMPLE:

```
----t----t (tabs set in the 5th and 10th positions)
```

Press the ENTER key, and ATMS will respond:

```
OK
```

Like page width and depth settings, tabs will be included with any documents stored in permanent storage. Tabs will also remain set until you change them. To change a tab-setting to "no tabs set" type a series of dashes across the screen on line 1, and press the ENTER key.

After you have signed on, and set your page width and depth, and tabs, it is a good idea to use the "clear" command - type "clear" on line 1 - before entering text. This will not affect your terminal status, but will ensure that you do not have any unwanted data in working storage before you begin entering text.

When you are entering text, you can use the substitute tab key (>) to govern the position of your text. You will not need to use tabs when entering bibliographic data.

6.3 TERMINAL STATUS

The page width and depth, and tabsettings you are currently using constitute your terminal status. This information will appear on the screen when you sign on. You can also find out your terminal status at any time by typing '?' on line 1 of the screen, and pressing the ENTER key. ATMS will respond with your current page width, page depth, and tab settings.

7. MAKING A DATA BASE

This section describes how to create a file of records for later searching under STAIRS. To enter data for subsequent output to STAIRS, you will be using the Condensed Text format of ATMS. This format limits your line length to 72 characters, or 16 words. Your screen contains 24 lines, each of 80 characters, and using this format it is easiest to set your page width at 70 characters, and your page depth at 20. You will not have to set any tbas.

EXAMPLE:

```
w;70;20
```

7.1 DOCUMENT STRUCTURE

Each document you enter will be divided into paragraphs or fields for later searching using STAIRS. To ensure compatibility of files created by AUSINET participants, the National Library has used similar formats for ERIC, SSCI, SCI, ASI, APAIS, and other data bases. The structure of records, and the names of fields are similar to those in the ERIC data base. By ensuring compatibility in this way, a search formulated for (eg) the ERIC data base could be used to search APAIS for Australian material on the same topic.

When you are entering a document under ATMS, you must specify which part of your record you want to appear in, for example, the title field. To do this, you can substitute field numbers for paragraph names. Each piece of data that you enter is preceded by a control field to indicate to ATMS which part of the record it is. The control is !tps;field number.

eg. !tps;004 tells ATMS that the following data is to appear in the title field.

The paragraph names you will probably need to use most, and the corresponding field numbers are:

ACCESSION NUMBER	002
TITLE	004
PUBLICATION DATE	006
SOURCE OF INPUT IDENTIFICATION	090

JOURNAL CITATION	102
AUTHOR	202
CORPORATE AUTHOR	203
INSTITUTION	204
ABSTRACT	400 to 570
NOTE	580
SPONSORING AGENCY	592
AVAILABILITY	597
PRICE	598
DESCRIPTORS	602
IDENTIFIERS	604

Within this framework, you can use other fields, not specified here, to include any other material in your document. You do not have to use all fields listed here when you enter a document, only the fields you need to accurately describe the document you are entering.

If the documents you are entering are, for example, articles indexed in a periodical index, the format would look something like this:

```
!tps;002|
A000002|
!tps;004|
The changing times.|
!tps;006|
January, 1977|
!tps;090|
NLA|
!tps;102|
Parade, v.3, n.4, Jan. 1977: 16- 17|
!tps;202|
Clarke, Jim|
!tps;580|
illus., diags.|
!tps;602|
Railways, History|
```

By typing the substitute carrier return character (upper case 1) and then pressing the RETURN key you can indicate the end of a line in your document without pressing the ENTER key until you have completely typed, and if necessary, corrected your document.

7.2 PUNCTUATION

If you are entering bibliographic data which will be used for information retrieval using STAIRS, you will need to observe certain conventions regarding punctuation to ensure that all parts of your record will be searchable.

(1) Capital letters

If you are using a terminal with an upper/lower case facility, you may wish to enter your document with capital letters in the usual places. However, the inclusion or omission of capital letters will not affect searching under STAIRS. For example, STAIRS treats the words "Library" and "library" as identical for the purposes of retrieving relevant references.

(2) Colons, dashes, commas, slashes, etc.

To ensure that all parts of a record are effectively searchable under STAIRS, a space must be left between these (and similar punctuation marks) and the next word in the document. In a bibliographic record, this rule applies to index terms, dates etc. For example, the subject heading

Australia:ØForeignØRelations:ØIndonesia

would have to contain blanks as shown for all parts of the record to be retrieved individually.

(3) Hyphenated words

If you want both words to be individually retrievable, the same rule applies eg. to retrieve either word, "costØ-benefit" would need to include a blank after the hyphen.

(4) Parentheses

Brackets will make no difference to STAIRS. For example, the index term Law (Evidence) could be retrieved by searching for the occurrence of the two words adjacent to each other, without specifying brackets.

So you can include brackets as you would in a usual document citation.

(5) Authors' initials

As STAIRS treats the full stop as a paragraph delimiter, it cannot be used after an initial. Two initials should be separated by a blank.

eg. Oliver,ØJ
Oliver,ØJØM

not Oliver,JM

(6) A sample bibliographic entry, with blanks in the appropriate places, looks like this:

GeographyØinØtheØseniorØschoolØinØWestern Australia.
June,Ø1975
GeographicalØEducation,Øv.2,Øn.1,ØJuneØ1975:Ø359-64
Cameron,ØJØNØR
bibl.,Ødiags.
Geography:ØStudyØandØteaching:Ø(Secondary):Ø WesternØAustralia

7.3 CORRECTING TYPING MISTAKES

Data or text which you type in is not transmitted to ATMS until you press the ENTER key. Typing mistakes made before using the ENTER key can be corrected by using one of the cursor control keys to position the cursor under the first incorrect character, and over-typing from that point.

If you find you have omitted some data, or made a mistake in the middle of your text, the INSERT and DELETE keys can be useful. The DELETE key will delete one character at a time without leaving any gaps. Just position the cursor under the character you wish to delete and press the DELETE key. The INSERT key allows you to insert text without losing any of the characters you have already typed. Position the cursor at the point where text is to be inserted, press the key marked INS MODE, and type your additional text. Press the RESET key after you have finished inserting text.

7.4 TYPING AN ENTRY

To enter a document:

1. Sign on to ATMS
2. When you have signed on, press the CLEAR key.
3. The cursor will come to rest at line 3 of the screen.
4. Type in your document.
5. When you are sure that you have corrected any typing mistakes, and that the cursor is at the beginning of the next blank line, press the ENTER key.
6. ATMS now has your completed document in WORKING STORAGE.

7.5 STORING A DOCUMENT

Because you want to use your documents to create a data base, and may in any case wish to later modify them, you must store each document in PERMANENT STORAGE. To do this:

1. Press the BACK TAB key to take the cursor back to line 1, position 1
2. Type s;document name;ident (The document name may be 15 characters long and can be any character except a colon or a semicolon. If you need additional identifying information for your document you can add up to 50 characters as 'ident'.) eg. s;doc 102;test
3. Press the ENTER key.

4. You will receive a message from ATMS
OK, DOCUMENT **STORED**

5. Now that you have a copy of your document in PERMANENT STORAGE, you no longer need a copy in WORKING STORAGE, so -

6. Use the BACK TAB key to position the cursor at line 1, and

7. Type the command "clear"

8. Press the ENTER key

9. ATMS will respond with a message, OK, CLEARED

10. Your working storage area is now clear for you to type another document

11. Press the CLEAR key to clear the screen, wait till the cursor comes to rest at line 3, and begin typing your next document.

MOST IMPORTANT:

Remember to "save" each document you type in PERMANENT STORAGE;

Remember to type 'clear' on line 1 to clear WORKING STORAGE before you type your next document. If you forget to do this, you will add your next document to whatever is already in WORKING STORAGE.

You cannot store a document under a name you have already used. If you try to do so, ATMS will issue the message:

NO, DUPLICATE NAME

7.6 ALTERING A DOCUMENT

Once you have stored a document in PERMANENT STORAGE, you may still want to alter it. There are several ways in which you can alter parts of a document. There are two "terminal states" in which you can alter text - text formatted state and text alteration state. Each allows you to display and alter your text in different ways. These two terminal states are explained in greater detail in the section on altering continuous text. (section 11)

For altering bibliographic documents you will need to remember only the major distinction between the two states. Text formatted state allows you to issue a print command and view your document in final formatted form. Text alteration state displays your text in formatted form, but with the format and line controls still shown.

As a general rule, simple alterations to bibliographic text can be made in text formatted state, while text alteration state gives you the ability to make major revisions to text.

7.6.1. GETTING A DOCUMENT

To alter a document you must first get it from permanent storage and transfer it into WORKING STORAGE. So on line 1 type (eg)

```
g:docb)4
```

and press the ENTER key.

ATMS will respond with the message (eg)

```
1 PAGE(s)docb)4
```

(If you used an ident. value when you stored your document, ATMS will respond with the number of pages and the ident. instead of the document name)

7.6.2. ALTERATIONS IN TEXT FORMATTED STATE

When you are altering documents in text formatted state, you have several options as to the form in which you can look at documents:

p - print

pa - print as entered (with field numbers)

pn - print with line numbers

pan - print as entered, with line numbers.

If you want to alter your document, pan is probably the most useful option. Take the cursor to line 1, type in the option you have selected, and press the ENTER key. ATMS will respond with:

OK, SIGNAL DEVICE DESIRED - DISPLAY=PAGEFFK,PRINTER=PRINTFFK

The PRINTFFK option is for use with a printer attached to the VDU. In most cases, you will need to press the PAGE FFK key. ATMS will respond with the first screen of your document.

7.6.3. PAGING THROUGH A DOCUMENT

If your document extends to more than one screen, keep pressing the PAGE key to get successive screens of text. When you get a message - LAST PAGE-ROLL OR CLEAR, use the ROLL key to view the last lines of your document. To do this position the cursor under the line of text you want to appear at the top of the screen, and press the ENTER Key. ATMS will roll the text up the screen so that the line under which the cursor was positioned appears at the top of the screen, and you can look at the rest of your document. ATMS will only let you page forward, so if you want to review text you have already looked at:

(1) Press the CLEAR key:

(2) Type in your print option on line 1 (p, pan etc.):

(3) Press the ENTER key:

(4) Press the PAGE key and continue as before.

7.6.4. COMMANDS FOR ALTERING TEXT.

In text formatted state, you can no longer alter your document by overtyping; you must use ATMS commands.

To ERASE a line, type (eg)

e;1.9 (erase line 1.9)

ATMS will respond with the line you wish to delete:

ERASE---1type;402

If you want to erase that line, type "y" and press the ENTER key. EDNA will respond with a display of the altered document.

To ERASE several lines, type (eg)

e;7.2;7.4 (erase from line 7.2 to line 7.74)

EDNA will respond with

ERASE---(type;DIR---EDNA)---January, 1977

Type "y" if you wish to erase those lines, and press ENTER. EDNA will respond with the altered document.

To ERASE several lines, through to the end of a document, type (eg)

e;5.1;-1 (erase from line 5.1 to end of document)

To REPLACE a word, type (eg)

1.14;times;time (change the word "times" to "time" in line 1.14)

EDNA will respond with several lines of the document, beginning with the line in which you made the change.

To MOVE lines, type (eg)

m;1.3;1.12 (move line 1.12 and following lines after line 1.3)

EDNA will respond by displaying the text you want moved (eg)

ENTER---(type;DIR---MOVE)---Line;---Text(END DOC)

Respond by typing "y" if you want the text moved, and press the ENTER key. EDNA will display your altered text.

9.6.5. [illegible]

[illegible] will go directly to that particular page. Using the above commands, you can use the function keys marked SCRN, CHAR, ATR and COPY.

Your document must first be in working storage, but instead of displaying your text to activate a print option (by e.g. pressing the PAGE key to look at your document). Your document is now in hard allocation state. If you are in hard formatted state CTRL will not allow you to use the function keys to alter your document. In this state, you can still use the normal pc-writing keys and the SHIFT and INSERT keys to alter your document. Remember to use the ENTER key after inserting text.

The PAGE function allows only forward display of pages. If your document contains more than one page and you want to continue pages, press the CLEAR key followed by the PAGE key. If you have already used a function key to enter page 1 of your document, you will need to follow these steps to look at page 1 or page 5:

1. Press the CLEAR key.

2. Position the cursor under the page number on line 24 of the screen.

3. Manipulate the number of the page you wish to see.

4. Press the ENTER key.

Functions to use the PAGE key to view subsequent pages of your document. If you press PAGE after the last page of your document has been displayed, error will respond.

10. INVALID PAGE REQUEST

ADDING text

To insert extra text into a document, press the ADD key, and ATMS will respond

OK, ADD FUNCTION SCREEN PROTECTED INDICATE AFTER POINT

Position the cursor underneath the point where you wish to insert new text. Press the ENTER key, and ATMS will split the text at that point, providing you with 18 blank lines for your additional text. After you have finished typing, press the ENTER key again, and ATMS will respond by displaying the altered part of your document. To look at the whole document again press the CLEAR key, and then the PAGE key.

EXAMPLE

You want to correct a document by inserting the journal citation field.

```
!tps;002|
A000002|
!tps;004|
The changing times.|
!tps;006|
January, 1977|
!tps;090|
NLA| <------cursor
!tps;202|
Clarke, Jim|
!tps;580|
illus., diags.|
!tps;602|
Railways, History|
```

By pressing the ADD key, positioning the cursor under the substitute carriage return character after NLA, and pressing the ENTER key, ATMS will will split the text and allow you to insert new text:

```
!tps;090|
NLA|_<---cursor


!tps;202|
```

Insert the additional text

```
!tps:090
NLA
!tps:102
Parade, v.3, n.4, Jan. 1977: 16-17
-←cursor
```

Additional text

and press the ENTER key. ATMS will respond with the altered part of your document. Press the CLEAR key, then the PAGE key to look at your complete altered document.

ERASING text

After you have pressed the ERASE key, ATMS will respond:

OK, ERASE FUNCTION SCREEN PROTECTED INDICATE FROM POINT

Position the cursor underneath the beginning of the text you want to erase, and press the ENTER key. ATMS will respond:

OK, ERASE FUNCTION SCREEN PROTECTED INDICATE THRU POINT

Position the cursor at the end of the text you want erased and press the ENTER key. ATMS will respond with a few lines before and after the text you deleted. To view the whole of your altered document, press the CLEAR key, then the PAGE key.

MOVING text

To move a portion of your text to a different position within the document, press the MOVE key. ATMS will respond:

OK, MOVE FUNCTION SCREEN PROTECTED INDICATE AFTER POINT

As with the ADD function, position the cursor underneath the point where text is to be added. Press the ENTER key. ATMS will then ask you to indicate which part of the text is to be moved:

OK, MOVE FUNCTION SCREEN PROTECTED INDICATE FROM POINT

Position the cursor at the beginning of text to be moved. Press the ENTER key. ATMS will respond:

OK, MOVE FUNCTION SCREEN PROTECTED INDICATE THRU POINT

Position the cursor underneath the end of the text to be moved, and press the ENTER key. ATMS will respond with a display of the altered portion of your document. To see the whole document, press the CLEAR key followed by the PAGE key.

If the document in which you want to move text runs to two or more pages, begin the MOVE function on the page where you want to insert text, then use the PAGE key to get the next page of your document.

EXAMPLE

You want to move the title to its correct position in the document:

```
!tps;002|
A000002|  1
!tps;006|
January, 1977|
!tps;090|
NLA|
2 !tps;004|
The changing times.|3
!tps;102|
Parade, v.3, n.4, Jan. 1977: 16-17|
!tps;202|
Clarke, Jim|
```

The points 1, 2, and 3 are the cursor positions indicating where text is to be moved, and the beginning and end of the text to be moved. After pressing the ENTER key after point 3, ATMS will respond with the altered portion of your text:

```
!tps;002|
A000002|
!tps;004|          ┐
The changing times.|  moved
!tps;006|          ┘ text.
January, 1977|
```

COPYING text

This function enables you to copy a portion of text to a different position on a page, while retaining the text in its original position as well. You will probably not need to use this function in the creation of bibliographic entries, but it could be useful in the compilation of lengthier documents.

After you have pressed the COPY key, ATMS will respond with messages similar to those used in the MOVE function. As with the MOVE function, you will need to position the cursor three times to indicate the text you want copied.

If you wish to cancel an operation after you have used one of the above function keys, press the PA2 key. ATMS will respond

NOT DONE

7.7. REPLACING DOCUMENTS

To this stage, all your alterations have been done in working storage. Once you have altered a stored document in working storage, you will need to replace the old document in permanent storage with the new corrected document.

Type

rd;document name

and press the ENTER key. To give you the option of cancelling the operation ATMS will respond with the document name eg.

docb34

If you want to replace the document, type 'y' and press ENTER. ATMS will respond:

OK, DOCUMENT **REPLACED**

If you want to cancel the operation, press the ENTER key instead of typing 'y'. ATMS will respond:

NOT DONE

7.8. DELETING DOCUMENTS

To DELETE a complete document from permanent storage, type

d;document name

and press the ENTER key. ATMS will respond with the document name eg.

docb34

If you want to delete the document, type 'y' and press the ENTER key. ATMS will respond

OK, DOCUMENT **DELETED**

If, for example you make a mistake in typing and do not want to delete the document, just press the ENTER key instead of typing 'y'. ATMS will respond

NOT DONE

7.9. BUILDING THE DATA BASE

Once you have entered, stored and if necessary corrected your documents, they still have to be built into a data base. To enable this to be done, you must transmit them to a queue. A queue is simply a list of documents waiting to be processed. As a queue holds a maximum of 50 documents, you may have several queues at the same time. You will need to contact Bryan Ingram at ACI in Melbourne to arrange for queues to be set up.

The command for transmitting documents is:

(1) x;stairsq;docname;;p

(Instruction to transmit document) (name of queue) (document identification) (print option - determines the appearance of your printed document)

(2) Press the ENTER key

(3) ATMS will respond with

OK,(01)DOCUMENT TRANSMITTED

(4) You can transmit only one document at a time. To transmit your next document, take the cursor to line 1 of the screen, and type the transmit instruction for the next document.

(5) ATMS will display messages when your queue holds 30 documents, 40 documents and the maximum of 50 documents.

SECTION TWO

8. OTHER WAYS TO USE ATMS

As well as using ATMS to create files for information retrieval using STAIRS, you can use ATMS to create and reformat the text of documents such as reports. By employing page width and depth controls, tabs and text and line format controls, you can determine how the printed version of your text will look.

In addition to the functions described in the preceding sections, there are some other features of ATMS with which you will need to be familiar.

8.1 TERMINAL STATUS

We have already covered the commands for setting page width and depth, and tabs. These are the first things to do before you begin typing your document. Remember that these values will be included with your document in permanent storage. However, when you get a document back into working storage it will assume those values with which you are currently working. So to look at your document with the page width, depth and tabsettings stored with it, you will need to use the command

```
g;document name;t
```

8.2 OBTAINING A STORAGE REPORT

This command will allow you to see, in working storage, a list of all documents currently in permanent storage.

1. Clear working storage by typing "clear".
2. Press the ENTER key;
3. Type "report" on line 1;
4. Press the ENTER key;

5. ATMS will respond:

OK, SIGNAL DEVICE DESIRED-DISPLAY=PAGEPFK,PRINTER=PRINTPFK

6. Use the PAGE and ROLL keys to look at the list.

7. Clear working storage when you have finished with the list.

To obtain a listing of only those documents with a certain prefix (eg. APAIS) use the command report;prefix

eg. report;apais

9. FORMAT CONTROLS

9.1 FORMATTED TEXT

Text entered in formatted mode is eligible for re-arranging by ATMS, according to your specifications, when it is printed or displayed. Therefore, when you are entering text, you need only be concerned with the style of individual paragraphs. Once you have set your page width and depth, ATMS will reformat your text accordingly on output. Formatted mode also allows you to reformat your document by changing the width setting prior to issuing a print or display command.

When you first sign on to ATMS, or after you have cleared working storage, you are automatically in formatted mode. If your complete document is to be reformatted during output, no further action is required. You will only need to use the formatted mode control when you are returning from eg. unformatted mode, or condensed text format.

The control for formatted mode is !tf followed by the substitute carrier return (upper case 1). Then type your text and press the ENTER key.

EXAMPLE:

As entered	As printed
w;35;60| !tf| This is a| paragraph of| text that is| eligible for| reformatting| at output time.|	This is a paragraph of text that is eligible for reformatting at output time.

When you enter text in formatted mode, you do not need to insert a substitute carrier return to indicate the end of a line. Just type your text continuously and ATMS will insert its own carrier returns according to the entry/edit width displayed on line 24 of the scr[illegible]. This width will not affect the final printed width o[illegible] your document - the line width that you set in the w;width; depth command will control that. You can change the width value in line 24 before you begin entering text by using the tab key on the left of the keyboard to position the cursor at the width value on line 24, and typing in the width value you wish to work with.

You will be able to see the effect of this width value when you look at your text in text alteration state. ATMS will have inserted substitute carrier returns in your text according to this width value.

9.2 UNFORMATTED TEXT

Text entered in unformatted mode will not be rearranged by ATMS at the time of printing. The output lines will be exactly the same as the input lines and the system in effect ignores any line width set at the terminal. When using this mode, made sure that your line length is not longer than the paper on which your document is to be printed; if it is, the excess characters will print off the edge of the paper. Unformatted text is useful for creating tabulations in columns which must be printed exactly as entered.

The control for unformatted text is !tu followed by the substitute carrier return (upper case 1). Type in your text and press the ENTER key. As output from unformatted mode appears exactly as the entered text, you will need to use the substitute carrier return and RETURN keys at the end of each input line.

EXAMPLE:

As entered

```
w;35;60
!tu|
These units will|
be output|
as entered.  The width value is ignored.|
>1>2>3|
>>4 5|
```

As printed

```
These units will
be output
as entered.  The width value is ignored.
 1 2 3
   4 5
```

9.3 PARAGRAPHS

When you are using formatted mode, the text of your document can be rearranged into paragraphs when it is printed or displayed. There are several paragraph styles you may wish to use, and several methods by which you can instruct ATMS on how your printed paragraphs should look. Pages 28-35 of the ATMS Terminal Operations Guide provide more detail on particular paragraph styles.

The use of tabs in the first two lines of your text will control the paragraph style. For example, if you had tabs set at positions 5 and 10, and wanted to employ a paragraph style with a first line indent, your entered text could look like this:

EXAMPLE:

```
>>Data bases can be created with ATMS,
and later searched using STAIRS.|
```

The substitute tab characters tell ATMS to start the first line at position 10. The absence of tabs in line 2 instructs ATMS that line 2 and all following lines are not indented. Therefore, tabs, or the absence of tabs, in the first two lines of your text control the style of your paragraph.

9.3.1 DEFINING PARAGRAPHS

Paragraphs are usually separated in continous text by one or more blank lines. To denote the end of a paragraph, enter two substitute carrier returns at the end of the paragraph. This will instruct ATMS to leave one blank line and begin a new paragraph.

If you require more than one blank line between paragraphs, you will need to use the "skip" control. (!t+n)

EXAMPLE:

```
ATMS runs in a multi-programming environment.
!t+3
This manual provides information on using ATMS-----
```

In the above example, ATMS has been instructed to skip 3 lines between the end of one paragraph and the beginning of the next paragraph.

Other uses of the skip control are discussed in section 9.4.

9.3.2 EXPLICIT PARAGRAPHING

By using this particular control, you can eliminate the requirement to enter tabs at the beginning of each paragraph, and the control for skipping lines between paragraphs.

The format of the explicit paragraphing control is eg:

```
!tf2;1;60;2
```

The first digit specifies the number of tabs for indentation of the first line of each paragraph; the second digit represents the number of tabs for indenting the second and subsequent lines of a paragraph; the third digit represents the desired width of the following paragraph; the final digit represents the number of blank lines to be left between paragraphs.

This control is retained by ATMS until another formatting control is specified. If you use this particular control without any tabs set, ATMS will interpret the first two digits of the command as the number of spaces to be indented in the first and second lines of your paragraphs.

EXAMPLE:

```
:tf1:::3
```

The above format control specifies that the following formatted paragraphs are to be indented one tab from the left margin, only the first line is indented one tab and the remainder of the paragraph is at the left margin. The previously set page width of 65 is to be used, and there are to be two blank lines between paragraphs.

The above blank line was caused by striking the carrier return.

This was done to indicate that this is a new paragraph.

Notice the extra blank line when the text is printed.

9.4 SKIPPING LINES

As you saw in the section on defining paragraphs (9.3.1), the skip control can be used to leave blank lines between paragraphs. When using the skip control, you can use either the = or the + sign. For example, :t+3 will have the same effect as :t=3.

The skip control can also be used to instruct NRO to eject a page and begin following text on a new page. The control for this is .sk=99.

EXAMPLE

As entered:

```
Skipping lines
.sk=5
The above command will cause five lines to be
skipped on the page being printed, if space is
available.
.sk=99
If sufficient space is not available, the printing
of text will begin at the top of the next page,
ignoring the skip command.
```

Formatted result:

```
Skipping lines


5 lines

The above command will cause five lines to be
skipped on the page being printed, if space is
available.
```

```
If sufficient space is not available, the printing
of text will begin at the top of the next page,
ignoring the skip command.
```

Where you need to be sure that NRO will skip the required number of lines at a particular point in a document - for example to include a chart or illustration - use the format .sk=n,u. The "u" stands for unconditional. When you use this control, if space is not available at the bottom of a page, NRO will skip the required number of lines at the top of the next page.

Please use these error codes when you can not use the disk because of disk errors:

DSKERR,0 = Disk is blank (there is no map of the used available pages

DSKERR,1 = Disk is blank (there is no map of the reserved pages, or some other of the sufficient space remains on reserved pages

DSKERR,2 = Disk is full (you can open existing available - the rest is because of the reserved pages, or map of the used pages.

8.3 Directories

Directories to be retrieved on the map of empty pages can be accessed in handling mode, and could only be accessed again. The contents in DSKP , and you can specify on which pages your handling is to be applied.

DSKP[0] = handling on all pages

DSKP[1] = handling on pages 1 and 2, and all following odd-numbered pages

DSKP[2] = handling on pages 3 and 4, and all following even-numbered pages

DSKP[3] = handling on pages 3 and 5, and all following odd-numbered pages.

If you omit this specification, the handling will be performed on pages 0, and all subsequent pages.

You can also control your handling with the control flags.

So the handling is usually terminated from the user of your task, you will need to use the skip control to specify the number of block lines to appear after your handling. Before entering the user of your task, you will need to specify another format control. (msg1[0])

EXAMPLE

As entered:

```
!tuhc!2!
HEADING MODE!
!t=3!
!tf!
The heading mode treats a.. subsequent text as a!
heading.  .he heading mode must be ended by!
issuing another text format control.!
```

As printed:

HEADING MODE

The heading mode treats all subsequent text as a heading. The heading mode must be ended by issuing another text format control.

In the above example, the heading has been centred, and will appear on pages 1 and 2, and all subsequent pages. Three lines have been skipped between the heading and the body of the text. The text is in formatted mode.

If you want to enter a new heading later in your text, you will need to use the same commands as above. To make sure that your new heading will appear at the top of the correct page, use the skip control !t=99 after you have entered your new heading.

9.6 FOOTINGS

Footing mode will allow you to print the same information at the bottom of each page. The control for footing mode is !tuf and like the heading mode, is entered before other text to appear on your page.

EXAMPLE

As entered:

```
!tuf13
!t=3
ABC Company
!tf
The footing control causes all following text to
be contained within a footing.  The footing mode
must be ended by issuing another text format
control.
```

As printed:

The footing control causes all following text to be contained within a footing. The footing mode must be ended by issuing another text format control.

ABC Company

In the above example, the footing will be printed on pages 1 and 3 and all following odd-numbered pages. Three lines were skipped between the end of the formatted text and the footing.

Like headings, footing can also be centred (!tufc), and similar page options apply:

!tuf13 - footing on pages 1 and 3, and all following odd-numbered pages

!tuf24 - footing on pages 2 and 4, and all following even-numbered pages

!tuf35 - footing on pages 3 and 5, and all following odd-numbered pages

If you omit this specification, the footing will be printed on all pages.

If you wish to change your footing, enter the same controls as above, but use !t=99 before the new footing to ensure that it appears on the next page.

9.7 CENTERING TEXT

Just as you can centre headings or footings, you can centre larger sections of unformatted text. Enter the control !tuc followed by the text to be centred. A new format control must be issued if you want to then type text which is not to be centred.

9.8 KEEPING LINES TOGETHER

For the sake of clarity, it is sometimes necessary to keep lines of text together. For example, a table or chart should appear as a complete block of text on one page, rather than be split and appear on two pages. Text can be kept together by issuing the following controls before and after the lines of text you want printed together:

!t(- begins text to be kept together

!t) - ends text to be kept together.

Each control should be followed by a substitute carriage return.

EXAMPLE:

> !t(If there is enough space on the current page for the block of text, it is printed. If there is not enough space, the rest of the current page is skipped, and the block of text is printed starting at the top of the next page.!t)

9.9 DOUBLE SPACING

If you want the text you are entering to be double spaced, use the control !tds, followed by a substitute carrier return. This will cause a paragraph break in your text, and all following text will be double spaced. To return to single spacing, issue the control !tss.

EXAMPLE

As entered:

```
!tds
This control is used when you need to go from single
to double spacing when a document is printed.
!tss
It can be used with either formatted or unformatted
text.
```

Formatted result:

This control is used when you need to go from single

to double spacing when a document is printed.

It can be used with either formatted or unformatted text.

9.10 TEXT JUSTIFICATION

Justification controls embedded in the text of a document allow you to justify part of your text, and then return to non-justified text. If you wish to print a complete document with the right hand margin justified, you can use a special print option, discussed in section 12.

The control for justification of a portion of text is !tj. To return to non-justified text, use the control !tnj.

EXAMPLE

```
!tj
The justification controls provide the flexibility
for producing both justified and non-justified
text within the same document. These controls
affect only formatted portions of a document.
They are entered as units by themselves and, when
encountered by ATMS, cause paragraph breaks.
!tnj
```

10. SPECIAL FORMATTING TECHNIQUES

You may have some special requirements for the layout of your text which are not catered for by the use of format controls. In these cases, you will need to use one or more of the special formatting techniques described below.

10.1 PAGE NUMBERING

ATMS automatically keeps track of formatted page numbers when a document is being printed, and will substitute the appropriate page number whenever the page number control !lpn is encountered.

The page number can be printed by itself, or as part of a heading or footing. If the heading or footing is to be printed only on selected pages, the page number will only appear on these pages.

EXAMPLE

As entered:

```
!tuhc12
FINANCIAL REPORT
!t+1
!lpn
!t+4
!tf
This control can be entered anywhere in a document.
When used in the body of the text, the current page
number will be substituted for each occurrence of
the !lpn control.
```

As printed:

```
                    FINANCIAL REPORT

                            1


This control can be entered anywhere in a document.
When used in the body of the text, the current page
number will be substituted for each occurrence of
the !lpn control.
```

In the above example, the heading has been centred, the skip control has been used to skip one line before the page numbering control, and then again to skip four lines before the body of formatted text.

10.2 UNDERLINING AND OVERSTRIKING

The control !los is used to initiate underlining or overstriking, and the control !loe to end underlining.

EXAMPLE - Underlining

As entered:

```
!tf
!los This control initiates solid underscoring of a
word or line(s) of text.  Overstriking or under-
scoring is discontinued when ATMS finds a paragraph
break.!loe
```

As printed:

This control initiates solid underscoring of a word or line(s) of text. Overstriking or underscoring is discontinued when ATMS finds a paragraph break.

EXAMPLE - Overstriking

When you use the overstrike control, you can specify the character you wish to use for overstriking (eg. a "/", an "x")

As entered:

```
!los;x In this example, x represents the overstrike
character.!loe
```

As printed:

In this example, x represents the overstrike character.

Note: On a VDU, underscoring and overstriking characters will appear on the line below your text.
eg: In this example, x represents the overstrike characters.
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Note that when you are using formatted mode, underscoring will continue until ATMS finds a paragraph break. If you are using unformatted mode, you will need to enter the !los control for each line to be underscored or overstruck.

When you specify either the underline (!los) or overstrike (!los;x) control, spaces as well as words will be included. To underscore words, but not the spaces in between, use the control !los;-.

EXAMPLE:

As entered:

> !los;- This control initiates underlining of words but not spaces. !loe

As printed:

> This control initiates underlining of words but not spaces.

To overstrike words, but not the spaces in between, use the control !los;Ø<x. By leaving a blank space after the semicolon, specifying the substitute backspace character and then the character to be used for overstriking, you will instruct ATMS to overstrike only words, and not spaces.

EXAMPLE

As entered:

> !los;Ø<x In this example, x represents the overstrike character.!loe

As printed:

> In this example, x represents the overstrike character.

10.3 SPLIT TEXT CONTROL

This technique is used for portions of text which are to appear on the same line, but at opposite sides of the page. For example, the contents listing of a document, and corresponding page numbers.

The portion of text preceding the control !lst will be aligned at the left hand margin, and that following the control will be aligned at the right hand margin. This control remains in effect for only one line.

EXAMPLE

As entered:

```
Introduction!lst;lpn
```

As printed:

```
Introduction                                              1
```

There are several variations on this basic control:

(1) To align page numbers at the right margin, type !lst!lpn

Formatted result:

```
                                                          1
```

(2) To align text at the right margin only, type (eg) !lstPAGE NUMBER

Formatted result:

```
                                              PAGE NUMBER
```

(3) To align text at the left margin, followed by fill - in characters, such as full stops, type (eg) Introduction!lst;.

Formatted result:

```
Introduction ..............................
```

(4) To align text as above, with fill-in characters, and with text or page numbers at the right margin, type
(eg) Introduction!lst;.!x1
or
Introduction!lst;.!lpn

Note that if you specify text rather than the page number control, you must precede it by !x.

```
Introduction ..............................1
```

(5) To repeat the same fill-in characters for subsequent lines, the semicolon will instruct ATMS to repeat the characters.

EXAMPLE

As entered:

```
Introduction!lst;.!x1
Chapter One!lst;!x10
```

Formatted result:

```
Introduction ...................1
Chapter One  ...................10
```

11. ALTERATIONS TO CONTINUOUS TEXT

In making alterations to continuous text, you will need to employ all the techniques you used to alter bibliographic documents.

To correct typing mistakes before pressing the ENTER key, use the cursor positioning keys, and the INSERT and DELETE keys as described in section 7.3.

Once you have stored a document in permanent storage you will need to transfer it into working storage before you can alter it. (See section 7.6.1) You can then make alterations in either text formatted or text alteration state. Below is an example of formatted text as it appears in each terminal state:

TEXT ENTRY

```
))This is a paragraph of formatted text|
>that illustrates the entry on the displ|
ay terminal, its subsequent display for|
editing and the formatted print display.‖
```

TEXT ALTERATION STATE

```
2,1   >> This is a paragraph of formatted
      text | that illustrates the entry on the
      diplay terminal, its subsequent display
      for editing and the formatted print
      display.‖
```

TEXT FORMATTED STATE

```
      This is a paragraph of formatted
text that illustrates the entry on the
display terminal, its subsequent display
for editing and the formatted print
display.
```

To display your document in text formatted state, select a print option, and then use the methods described in section 7.6.4 to alter your text.

11.1 ALTERATIONS IN TEXT ALTERATION STATE

As with bibliographic text, extensive alterations to continuous text can be made in text alteration state. Press the CLEAR key and then the PAGE key to look at your document in this state.

It will be displayed in partially formatted form, including formatting controls, substitute tab (›) and substitute carrier return(|) characters.

To make alterations, you can use the function keys ADD, MOVE, ERASE and COPY described in section 7.6.5, the cursor positioning keys, and the INSERT and DELETE keys. There are also some other ways in which you can alter your document in text alteration state.

11.1.1 STYLE BLOCKS

Your text in text alteration state will also include a style block to the left of each paragraph. Each style block is composed of two numbers, representing the tab positions stored for each paragraph. The first number represents the number of tabs indenting the first line of the paragraph, and the second number represents the number of tabs used to indent the second and subsequent lines of your paragraph.

The tabbing of your paragraph, and therefore the indentation and style of your paragraph, can be altered by changing these style block numbers.

EXAMPLE

As entered:

```
!tuh!2!
CLASSIFIED!
!t-2!
!tuf!2!
!t-2!
)))))))May 28, 1974!
!tf!
INPUT AND STORAGE!!
)1.)Computer storage provides a lot!
))of places and a lot of methods for storing!
information.  For example, punched cards are still!
an important way to store information outside of!
the computer.!!
)2.)Today, much of the computer data!
))is entered using terminals and stored magnetically!
 on reels of plastic tape as binary data or bits of!
 information.!!
```

As shown in text alteration state:

```
.tab12
    CLASSIFIED
.t=2
.tuf12
.t=2
      > >>>>    >May 28, 1974
.tf
0.0 INPUT AND STORAGE
1.2    1.>Computer storage provides a lot of places and a lot of
          methods for storing information.  For example, punched
          cards are still an important way to store information
          outside of the computer.
1.2    2.>Today, much of the computer data is entered using
          terminals and stored magnetically on reels of plastic
          tape as binary data or bits of information.

DOCUMENT      OPERATOR your signon name    WIDTH 060 PAGE 00001
```

As printed when the "2" in the first paragraph style block has been changed to a "3", and the "2" in the second paragraph style block has been changed to a "4".

```
CLASSIFIED

INPUT AND STORAGE

  1. Computer storage provides a lot of places and
       a lot of methods for storing information.
       For example, punched cards are still an
       important way to store information outside
       of the computer.

  2. Today, much of the computer data is entered
            using terminals and stored magnetically
            on reels of plastic tape as binary data
            or bits of information.

                        May. 28, 1974
```

Note that these changes have resulted in the second and subsequent lines of the first paragraph being indented by three tabs, and the same lines in the second paragraph by four tabs.

11.1.2 ALTERING PAGES OF LONG DOCUMENTS

If you wish to make alterations to a particular page of your document, there is no need to page through the entire document. If, for example, you wish to alter text appearing on page 16 of your document, use the TAB key on the left of the keyboard to position the cursor under the PAGE field in line 24 of the screen. Type in 00016 (the number of the page you wish to see) and press the ENTER key. ATMS will respond by displaying page 16 of your document.

You can also alter the appearance of your document in working storage by changing the width value in line 24. Again, use the TAB key to position the cursor at this value in line 24, type in the line width you wish to use, and press the ENTER key. You can then look at your re-formatted document by pressing the PAGE key. Note that changing this entry/edit width only affects the appearance of your document in working storage; it will not affect the line width value which you have set at the terminal and stored with your document.

11.2 RESTRUCTURING A DOCUMENT

When you alter a document by deleting, adding or moving units of text, ATMS numbers these units as inserted units. For example, if you had added 2 lines of text after unit three on page 2, the result would be:

Text in unit 3, page 2	2.3
Added text	2.3/1
Added text	2.3/2
Text in unit 4, page 2	2.4

After you have made extensive alterations to a document, missing or inserted unit numbers can become confusing. So you can instruct ATMS to completely renumber all your units of text. Type RUN on line 1, and press the ENTER key. ATMS will respond

OK, COMPLETED

10. Printing documents

The final formatted form of your document can be displayed by issuing a print command and then pressing the PRINT key. Your document is then in hard formatted state. You can display your document in hard formatted state using any of the following options:

- @ = print in formatted form according to the last format and line controls in the document
- pp = print as entered (showing controls as well as text)
- ppp = print as entered with page and unit numbers
- pj = print justified (left and right hand margins are justified)
- pp = print with page and unit numbers
- pjp = print justified with page and unit numbers
- ppp = print with page and unit numbers but without embellishments
- pjpp = print justified with page and unit numbers but without embellishments.

To print text double spaced, add a "d" to the option you select.

Any of these print options can be used when you terminate formatting to a clean for proofreading and printing.

Example:

```
A:text:report:pj

(Continuation lines of (Documents (print
 on terminal) queue)   name)      justified)
```

You will need to consult Series 1 or PC Software Services in Baltimore (Tel. 61 [illegible]) to make arrangements for clean names, and for printout to be sent to you.